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<p>(54) Title: PROCEDURE TO TRANSMIT INFORMATION AT TELEPHONE ANSWERING SERVICE</p> <div data-bbox="349 1155 1291 1375"> <pre> graph LR subgraph CS [Calling Subscriber] S1[Speech] A[A-number] SM[Stored Message] end subgraph MA [Mobile Answer] SR[Speech Recording] M[Memory] end subgraph CSub [Called Subscriber] S2[Speech] AD[Application Display] end S1 -- Telephone --> SR A -- SMS --> M SM -- SMS --> M SR -- Telephone --> S2 AD -- SMS --> M </pre> </div> <p>(57) Abstract</p> <p>The invention relates to a procedure to transmit information at a telephone answering service, especially in mobile telephone systems. The telephone answering service has a voice mailbox for recording of speech, and also means of transmitting text message to the mobile telephone, especially via SMS (Short Message Service). The invention makes possible an improved functionality in the system in so far as the text message is transmitted in parallel to the mobile telephone from which listening to the voice mailbox is performed. The text message usually contains a telephone number which can be connected with applications in the mobile terminal. The invention makes possible that telephone numbers or personal messages, manually or automatically, are stored in the mobile answer function and are transmitted to the listening mobile terminal.</p>		

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TITLE OF THE INVENTION: PROCEDURE TO TRANSMIT INFORMATION
AT TELEPHONE ANSWERING SERVICE

Field of the invention

5 The present invention relates to a procedure to
transmit information at a telephone answering service,
especially in mobile telephone systems. The telephone
answering service, her called mobile answer, has a voice
mailbox for recording of speech and also possibility to
10 transmit text messages to the mobile telephone, especially
via SMS (Short Message Service). The invention makes
possible an improved functionality in the system in so far
as the text message is transmitted in parallel to the
mobile telephone from which listening to the voice mailbox
15 is made. The text message usually contains a telephone
number which can be connected with applications in the
mobile terminal. The invention makes possible that
telephone numbers, or personal messages, manually or
automatically, are stored in the mobile answering function
20 and are transmitted to the mobile terminal listened to.

Prior art

 Within this technical field there are different
systems and solutions for mobile answering. It is, for
25 instance, known that a calling party himself/herself has
possibility to, by means of keyset on his/her telephone,
enter the information. Such information can be transmitted
via paging systems to the called part. The following
document can be regarded as representative for the prior
30 art:

EP,A2 662 763

WO,A1,95/12 948

WO,A2,97/31 498

WO,A1,97/01 252

35 WO,A1,96/09 714

EP,A2,783 219

WO,A1,93/20 640

In the mobile answer of today, a user is routed to a mobile answer if the mobile subscriber is not accessible. There the A-subscriber will be met by a speech message, either the default voice, or one of two possible speech messages which the mobile subscriber has spoken for recording. In this state, the calling subscriber can speak a voice message to be recorded, which then can be listened to by the mobile subscriber. Mobile answer transmits a notification, via SMS to the mobile answer subscriber, which can contain A-number presentation of the calling subscribers. The mobile answer subscriber then can call the "dialled" numbers by opening the SMS-notification.

The problem is that one does not necessarily know to whom the telephone numbers belong, before one has listened to voice messages in mobile answer. The system is not quite easy to use. Further, the subscriber who is calling mobile answer can have information which is more suitable as text. For instance, a leader of a business who is calling may want to introduce himself/herself and give telefax and e-mailaddress, or a common subscriber may want to give another number than the A-number.

Therefore it would be an advantage to:

1. Have possibility to get A-number in connection with ones listening to the messages in audio response.
2. Have possibility to connect the telephone number to the mobile answer subscriber's own telephone list on the SIM-card.
3. Have possibility to packet the function, making it simple and intuitive to use.
4. Have the calling subscriber to give more information to mobile answer than just a voice message.

The present invention solves these problems by mobile answer storing information and transmitting this to the called subscriber only when he/she listens to his/her voice message. The information is transmitted in parallel, for

instance through SMS, and can be connected to applications in the called subscriber's mobile terminal, or on the SIM-card, for presentation and use. By that, the called subscriber will have the information presented at right
5 time and in a way which is easy to understand and use.

Summary of the invention

Consequently the present invention provides a procedure to transmit information in connection with
10 telephone answering service which is provided by a mobile answer device in a mobile telephone system.

According to the invention the calling subscriber is connected to the mobile answer device when the called subscriber cannot be accessed. The mobile answer device
15 stores information which originates from the called subscriber. When the called subscriber establishes a connection to the mobile answer device, to listen to - recorded voice messages, a message is transmitted in parallel to the called subscriber. This message contains
20 the stored information.

The stored information can, for instance, contain the called subscriber's number, one in advance stored message from the calling subscriber, or an optional number entered by the calling subscriber.

25 The invention is defined in enclosed patent claim 1, whereas advantageous embodiments of the invention are given in the subclaims.

Brief description of the drawing

30 The invention now will be described in detail with reference to enclosed drawing, the only figure of which is a diagrammatic illustration of the system according to the invention.

Detailed description of preferred embodiments

In the figure is shown diagrammatically a system which can realise the procedure according to the present invention. In the mobile telephone systems of today there are functions to record messages when a called subscriber cannot be accessed. The called subscriber can, for instance, have switched off the telephone, or be outside the coverage area of the system, or quite simply be busy in another call. A calling subscriber is then connected to a voice mailbox system, or the like, here called mobile answer. The calling subscriber can call from another mobile terminal, or an ordinary telephone in the fixed network. Certain functions according to the invention, however, implies a special functionality also in the calling subscriber's telephone, as is explained in more details below.

The mobile terminals of today often have an advanced functionality which can be stored on an active card, the so called SIM-card (Subscriber Identity Module). With WAP (Wireless Application Protocol) SIM Toolkit and JAVA in the mobile terminal, new possibilities are opened to create advanced services with good user interface.

The three first problems deal with presenting calling subscribers' A-numbers to the mobile answer subscriber who calls mobile answer.

1. The A-numbers are transmitted, not as previously at notification, but at the listening to the messages. This is done via SMS or USSD (Unstructured Supplementary Services Data) which uses signalling channels which transfer information in parallel with the speech service. The information is packeted to an application in the mobile terminal, which has access to telephone list and can present the information on the terminal's display. It is possible via SIM Toolkit or WAP.

2. The application connects the A-numbers to the telephone list in the mobile. I.e. if the one who is

calling is in the telephone list, the name is shown instead of the telephone number. If the number is not in the list, the number is shown as it is.

3. Via WAP or SIM Toolkit the information is shown, i.e. the names or telephone numbers of the different subscribers, automatically on the display as a menu (see example below).

"Call
- Kalle
10 - 08 689 5510 (this number does not exist in the telephone list)
- Sven Stålnacke

By selecting one of the menu options, and press the "call"-button, the call is established and the connection to mobile answer is disconnected. Menu selection can be made via a "cursor", or via selection of digits.

4. The fourth point deals with that the subscriber which ends up in mobile answer instead of only speaking a message for recording, is given the possibility to write further information via WAP, SIM Toolkit, or keyset code DTMF (Dual Tone Multi-Frequency). By using DTMF, information can be transferred also from an ordinary telephone.

DTMF: In order to use DTMF is required that an option is given by mobile answer. "Hallo, this is Lars Nilssons mobile answer box and I cannot answer just now. Please, speak a message for recording after the tone, and/or press "1" if you want to give a telephone number. At selection of "1" there comes: "Please, "dial" the number and finish by square("#)". The calling party consequently can speak a message for recording and then give a telephone number; thus not necessarily A-number, which often can be useful if one, for instance, is calling from a public call box, or from a PABX (Public Automatic Branch Exchange), where A-number is not presented.

WAP or SIM Toolkit: When the call is routed to mobile answer, the mobile answer immediately transmits a message to the calling subscriber's mobile terminal. If the mobile has the application, which can be located on the SIM-card or the in terminal, the mobile transmits one in advance stored personal message to mobile answer. The message can be stored in the terminal, or on the SIM-card, and can consist of telephone number and various text information. The mobile answer subscriber receives the message at the same time, at the listening to the mobile answer.

Consequently the present invention i.a. gives the following advantages:

- The telephone number from calling subscriber is transmitted to the voice mailbox subscriber via SMS or USSD, at the same time as the subscriber listens to recorded mobile answer messages. This can be performed by means of SIM Toolkit, or WAP-application, which is located in mobile answer and the mobile answer subscriber's terminal.
- The subscriber who is calling and ends up in mobile answer is given possibility to transmit an own telephone number, or a personal message, while he/she is speaking a speech message for recording in mobile answer. This can be performed via DTMF or (SIM Toolkit or WAP)-application on the SIM-card, or in the terminal.
- The solution is not limited to GSM, but can, if it is implemented via WAP, be used directly by all mobile standards which will be WAP-compatible.

The invention can be used, together with speech messages from mobile answer, also to transfer telephone numbers, or other information, from calling subscribers. The invention can be used to differentiate the service offer between different operators, and might be located on the SIM-card.

In present implementations of voice mailbox, information from calling subscriber only consists of

recorded voice messages together with A-number in the mobile answer notification.

- By the invention, the mobile answer subscriber can get the calling subscribers' numbers directly in connection
5 with that the speech messages are listened to.
- Get the information presented with the name of the calling subscriber, via telephone book in terminal.
- The subscriber who ends up in mobile answer can give further telephone numbers or information.

10 An expert in the field realises that the invention can be implemented in different ways with different combinations of software and hardware. The extent of protection of the invention is only limited by the patent claims below.

PATENT CLAIMS

1. Procedure to transmit information in connection with telephone answering service which is provided by a mobile answer device in a mobile telephone system characterised in the steps:

that a calling subscriber is connected to the mobile answer device when a called subscriber can not be accessed;

that the mobile answer device stores information which originates from the calling subscriber;

that, when the called subscriber establishes a connection to the mobile answer device to listen to recorded speech messages, a message is transmitted in parallel to the called subscriber, which message contains the stored information.

2. Procedure as claimed in patent claim 1, characterised in that the stored information includes the calling subscriber's number (A-number), which is transferred automatically to the mobile answer device.

3. Procedure as claimed in patent claim 1, characterised in that the stored information includes one at the calling subscriber in advance stored message which is transferred automatically to the mobile answer device.

4. Procedure as claimed in patent claim 1, characterised in that the stored information contains an optional number, which is transferred by the calling subscriber to the mobile answer device.

5. Procedure as claimed in any of the previous patent claims, characterised in that the message is connected to an application at the called subscriber's.

6. Procedure as claimed in patent claim 5, characterised in that the application connects a number with a telephone list.

7. Procedure as claimed in any of the previous patent claims, characterised in that the message is transmitted by means of a short text message service, for instance SMS (Short Message Service) or USSD (Unstructured Supplementary Services Data).

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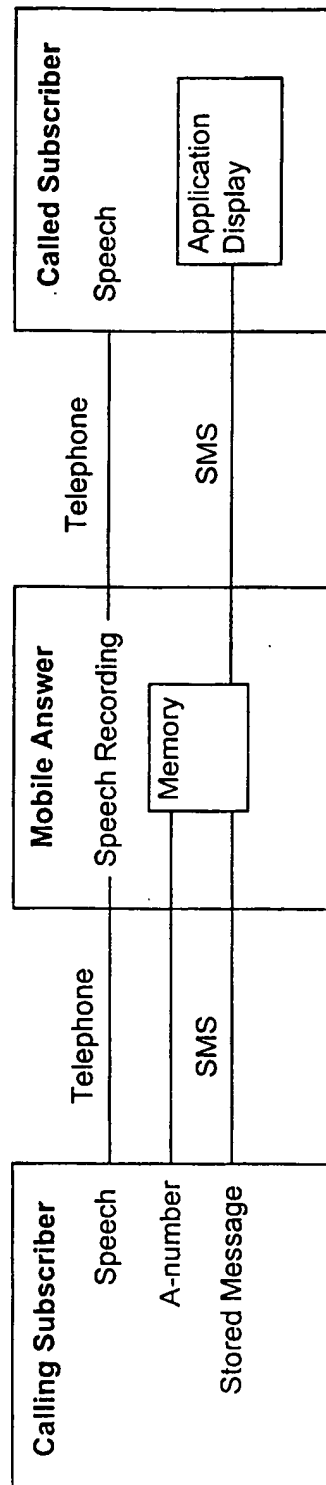


Figure 1